ABSTRACT OF THE DISCLOUSRE

A hydrogen gas storage container has a canister with at least one outlet opening for charging and discharging gas, the canister enclosing a metal hydride capable of absorbing and desorbing hydrogen gas and a gauge for measuring the capacity of hydrogen remaining within the hydride material. To further permit distribution of the hydrogen throughout the hydride material, a porous matrix may be disposed within said metal hydride material for providing efficient distribution of hydrogen gas to said metal hydride material. The fuel gauge may further comprise subassemblies for determining the hydrogen capacity, each of which depends for operation on a different property of the metal hydride material. For example, a pressure gauge sensitive to the plateau pressure indicative of the hydrogen capacity, a piezoelectric sensor that in combination with a rigid chamber in which hydride material is closely packed provides a pressure differential indicative of hydrogen capacity, or a resistivity sensor that in combination with a chamber in which hydride material is packed provides a resistance differential indicative of hydrogen capacity.